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Gonzalez et al.

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(54) **TISSUE THICKNESS COMPENSATOR
COMPRISING A PLURALITY OF LAYERS**

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See application file for complete search history.

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(57) **ABSTRACT**

A tissue thickness compensator comprising a first compensation layer, a second compensation layer, and a pocket situated between the compensation layers can be positioned in the end effector of a surgical instrument. A fastener cartridge positioned in the end effector can comprise a fastener moveable between an initial position and a fired position. When the fastener is moved from the initial position to the fired position, the fastener can move through the pocket and can compress a portion of the tissue thickness compensator. A support can be positioned between the first and second compensation layers. When the fastener compresses the tissue thickness compensator, at least one of the support, first compensation layer and second compensation layer can be deformed. The tissue thickness compensator can also comprise a tab and/or a limiting plate to control deformation of the compensation layers and/or the support.

23 Claims, 143 Drawing Sheets

